Serial No.: 09/504,631 Attorney Docket No.: 00P07463

IN THE CLAIMS:

This following is a listing of the claims in the application:

1. (Currently Amended) A modem, comprising:

a signal detector adapted to receive a signal, the signal including a data component and a plurality of echo components, said plurality of echo components comprising a plurality of far end echo components, said data component comprising a return signal from a remote modem;

a timing unit adapted to identify delays of said plurality of echo components by timing intervals between peaks; and

an echo cancellation unit adapted to cancel a plurality of echoes at said modem once said delays have been identified.

2. (Original) A modem in accordance with claim 1, said data component comprising a sinusoid at a predetermined frequency.

3. (Original) A modem in accordance with claim 2, said one or more echo components comprising signals at substantially said predetermined frequency and at differing amplitudes.

4. (Original) A modem in accordance with claim 3, said timing unit adapted to identify said delays by determining periods between peaks of said data component and said one or more echo components.

5. (Currently Amended) An echo cancellation method, comprising:

transmitting a training sinusoid to a remote modem;

receiving a return signal, said return signal comprising said training sinuosoid received from said remote modem and a plurality of far end echo signals having

substantially the same frequencies as said training sinusoid;

identifying echoes by determining delays between peaks of said return training sinusoid and peaks of said plurality of far end echo signals, said determining delays comprising timing intervals between peaks; and

canceling echoes based on said delays at a transmitting modem.

6. (Canceled)

7. (Currently Amended) An echo cancellation system, comprising:

means for transmitting a training sinusoid to a remote modem;

means responsive to said transmitting means for receiving a return signal, said return signal comprising said training sinuosoid received from said remote modem and a plurality of far end echo signals having substantially the same frequencies as said training sinusoid;

means responsive to said receiving means for identifying echoes by determining delays between peaks of said return training sinusoid and peaks of said plurality of far end echo signals, said identifying means including means for timing delays between peaks; and

means for canceling echoes based on said delays at a transmitting modem.

8. (Canceled)

9. (Currently Amended) A method, comprising:

receiving a signal at a modem, the signal including a data component received from a remote modem and a plurality of far end echo components;

identifying delays of a plurality of far end echo components by timing intervals between peaks; and

cancelling one or more far end echoes at said modem once said delays have

been identified.

10. (Original) A method in accordance with claim 9, said data component comprising a sinusoid at a predetermined frequency

11. (Original) A method in accordance with claim 10, said echo signals comprising signals at substantially said predetermined frequency and at differing amplitudes.

12. (Original) A method in accordance with claim 11, including identifying said delays by determining periods between peaks of said data component and said one or more echo components.

13. (Currently Amended) A method for canceling multiple echo signal components, comprising:

transmitting a training signal from a local modem to a remote modem;

detecting a return signal, said return signal comprising said training signal and a plurality of far end echo components;

determining intervals between peaks in said return signal;

compensating for said plurality of far end echo components at said local modem; and

transmitting echo-compensated data signals from said local modem to said remote modem.